

ABSTRACT

5 A method of chemically cleaning normally immersed
suction driven filtering membranes involves backwashing a chemical
cleaner through the membranes while the tank is empty in repeated pulses
10 in which the chemical cleaner is pumped to the membranes separated by
waiting periods in which chemical cleaner is not pumped to the
membranes. The duration and frequency of the pulses is preferably chosen
to provide an appropriate contact time of the chemical, preferably without
allowing the membranes to dry between pulses and without using excessive
15 amounts of chemical. In other aspects, such membranes preferably used for
filtering water to produce potable water in a batch process are backwashed
with a chemical cleaner substantially at the same time as the tank is being
drained. The chemical cleaner is optionally supplied in pulses. In other
aspects, chemical cleaner backwashes are started before the membranes foul
20 significantly and are repeated at least once per week to reduce the rate of
decline in the permeability of the membranes so that intensive recovery
cleaning is required less frequently. When performed in situ, each cleaning
event comprises (a) stopping permeation and any agitation of the
membranes, (b) backwashing the membranes with a chemical cleaner in
repeated pulses and (c) resuming agitation, if any, and permeation. The
pulses last for between 10 seconds and 100 seconds and there is a time
between pulses between 50 seconds and 6 minutes. Each cleaning event
typically involves between 5 and 20 pulses.